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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/831,337	10/30/2001	Man-yop Han	030681-301	2978

21839 7590 02/25/2005

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EXAMINER	
A, PHI DIEU TRAN	

ART UNIT	PAPER NUMBER
3637	

DATE MAILED: 02/25/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/831,337	HAN, MAN-YOP	
	Examiner	Art Unit	
	Phi D A	3637	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *26 November 2004*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *20-32* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *20-32* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

2. Claims 20-22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Crowley (2859504) in view of Stuckey (3568380).

Crowley shows a pre-stressed girder comprising an upper flange (10), a lower flange, a body portion interconnecting the upper flange to the lower flange, the girder having a lengthwise direction and includes an open area (14) disposed intermediate opposite longitudinal ends of the girder, the open area being accessible in a lateral direction relative to the longitudinal direction, a first plurality of wires (17) provided in the lengthwise direction of the girder and being pre-tensioned during the construction of the girder, a second wire(16) provided in the lengthwise direction of the girder

Crowley does not show one end of each of the second plurality of wires disposed within the open area and the other end of at least one of the second plurality of wires extending to one of the longitudinal ends of the girder, and the other end of at least one other of the second plurality of wires extending to the other one of the longitudinal ends of the girder, a coupler means for coupling together at least one and said at least one other of the second plurality of wires of the second plurality of wires.

Stuckey shows a plurality of wires (35d, 35c, figure 20) each having one end disposed within an open area of a concrete structure, and the other end of at least one of the second

plurality of wires extending to one of the longitudinal ends of the girder (the end to the left), and the other end (the one to the right) of at least one other of the plurality of wires extending to the other one of the longitudinal ends of the girder (extending to→ stretch forth), a coupler means (43) for coupling together at least one and said at least one other of the second plurality of wires of the second plurality of wires.

It would have been obvious to one having ordinary skill in the art at the time of the invention to modify Crowley's structure to show one end of each of the second plurality of wires disposed within the open area and the other end of at least one of the second plurality of wires extending to one of the longitudinal ends of the girder, and the other end of at least one other of the second plurality of wires extending to the other one of the longitudinal ends of the girder, a coupler means for coupling together at least one and said at least one other of the second plurality of wires of the second plurality of wires because it would enable the easy disconnection of the wires to release pre-stressed forces as taught by Stuckey (col 7 lines 29-31).

Crowley as modified inherently shows a tension in the girder due to the second plurality of wires extending from the one end to the other end of the girder.

Per claims 21, 22, Crowley as modified shows the open area remaining empty after installation of the girder so that the one end, disposed within the open are, of each second steel wire is accessible through the open area to produce in each second steel wire (before the filling of grout), one of the second wires extend from the open area to one of the longitudinal ends of the girder and the rest of the second wires extend from the open area to the other of the opposite longitudinal ends.

3. Claims 23-25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Crowley (2859504) in view of Stuckey (3568380).

Crowley shows a pre-stressed girder comprising an upper flange (10), a lower flange, a body portion interconnecting the upper flange to the lower flange, the girder having a lengthwise direction and includes an open area (14) disposed intermediate opposite longitudinal ends of the girder, the open area being accessible in a lateral direction relative to the longitudinal direction, a first plurality of wires (17) provided in the lengthwise direction of the girder and being pre-tensioned during the construction of the girder, a second plurality of wires(15, 16) provided in the lengthwise direction of the girder

Crowley et al does not show one end of each of the second plurality of wires disposed within the open area and the other end of at least one of the second plurality of wires extending to one of the longitudinal ends of the girder, and the other end of at least one other of the second plurality of wires extending to the other one of the longitudinal ends of the girder, a coupler member including an adjustable tensioning structure accessible through the open area to produce, in the substantially non-tensioned wires, a tension which extends from one of the opposite longitudinal ends of the girder to the other of the longitudinal ends thereof.

Stuckey shows a plurality of wires (35d, 35c, figure 20) each having one end disposed within an open area of a concrete structure, and the other end of at least one of the second plurality of wires extending to one of the longitudinal ends of the girder (the end to the left), and the other end (the one to the right) of at least one other of the plurality of wires extending to the other one of the longitudinal ends of the girder (extending to→ stretch forth), a coupler member (43) for coupling together at least one and said at least one other of the second plurality of wires

of the second plurality of wires, the coupler including an adjustable tensioning structure accessible through the open area to produce, in the substantially non-tensioned wires (35d, 35c), a tension which extends from one of the opposite longitudinal ends of the girder to the other of the longitudinal ends thereof

It would have been obvious to one having ordinary skill in the art at the time of the invention to modify Crowley's structure to show one end of each of the second plurality of wires disposed within the open area and the other end of at least one of the second plurality of wires extending to one of the longitudinal ends of the girder, and the other end of at least one other of the second plurality of wires extending to the other one of the longitudinal ends of the girder, a coupler member including an adjustable tensioning structure accessible through the open area to produce, in the substantially non-tensioned wires, a tension which extends from one of the opposite longitudinal ends of the girder to the other of the longitudinal ends thereof because it would enable the easy disconnection of the wires to release pre-stressed forces as taught by Stuckey (col 7 lines 29-31).

Per claims 24-25, 27 Crowley as modified shows the coupling member having holes formed therethrough which respective ones of the substantially non-tensioned wires extend and secured by wedges, the non-tensioned wires are disposed within one of the upper and lower flanges (46)open area remaining empty after installation of the girder so that the one end, disposed within the open are, of each second steel wire is accessible through the open area to produce in each second steel wire (before the filling of grout), one of the second wires extend from the open area to one of the longitudinal ends of the girder and the rest of the second wires extend from the open area to the other of the opposite longitudinal ends, each substantially non-

tensioned wires remain in a state that the substantially non-tensioned wires are accessible and can be tensioned after the completion of the construction of the building structure (inherently so before the filling of the grout) so that the girder can be reinforced by tensioning the substantially non-tensioned wires after the completion of the construction of the building structure, the building structure being a bridge or a building (col 1 line 54)

Per claims 30-32, Crowley et al as modified shows all the claimed structures. The claimed method would have been the obvious method steps of building Crowley et al's modified structures.

4. Claim 26 is rejected under 35 U.S.C. 103(a) as being unpatentable over Crowley (2859504) in view of Stuckey (3568380).

Crowley as modified shows all the claimed limitations except for the plurality of wires being three substantially non-tensioned wires, two of which extending to one of the longitudinal ends and the other extending to the other longitudinal end and situated between the two substantially non-tensioned wires.

Crowley further shows the structure being reinforced by three wires (17) with the third wire (the one in the middle) situated between the two substantially non-tensioned wires.

It would have been obvious to one having ordinary skill in the art at the time of the invention to modify Crowley's modified structure to show the plurality of wires being three substantially non-tensioned wires, two of which extending to one of the longitudinal ends and the other extending to the other longitudinal end and situated between the two substantially non-tensioned wires because having a third wire situated between two wires would enhance the reinforcement of the structure.

Crowley et al as modified shows two of which extending to one of the longitudinal ends and the other extending to the other longitudinal end and situated between the two substantially non-tensioned wires.

Response to Arguments

5. Applicant's arguments with respect to claims 20-32 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. The prior art shows different tensioning girders.

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Phi D A whose telephone number is 703-306-9136, or 571-272-

6864 only after April 07, 2005 . The examiner can normally be reached on Monday-Tuesday, Thursday and Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Lanna Mai can be reached on 703-308-2486. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Phi Dieu Tran A PA

2/14/05

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